FIG 1

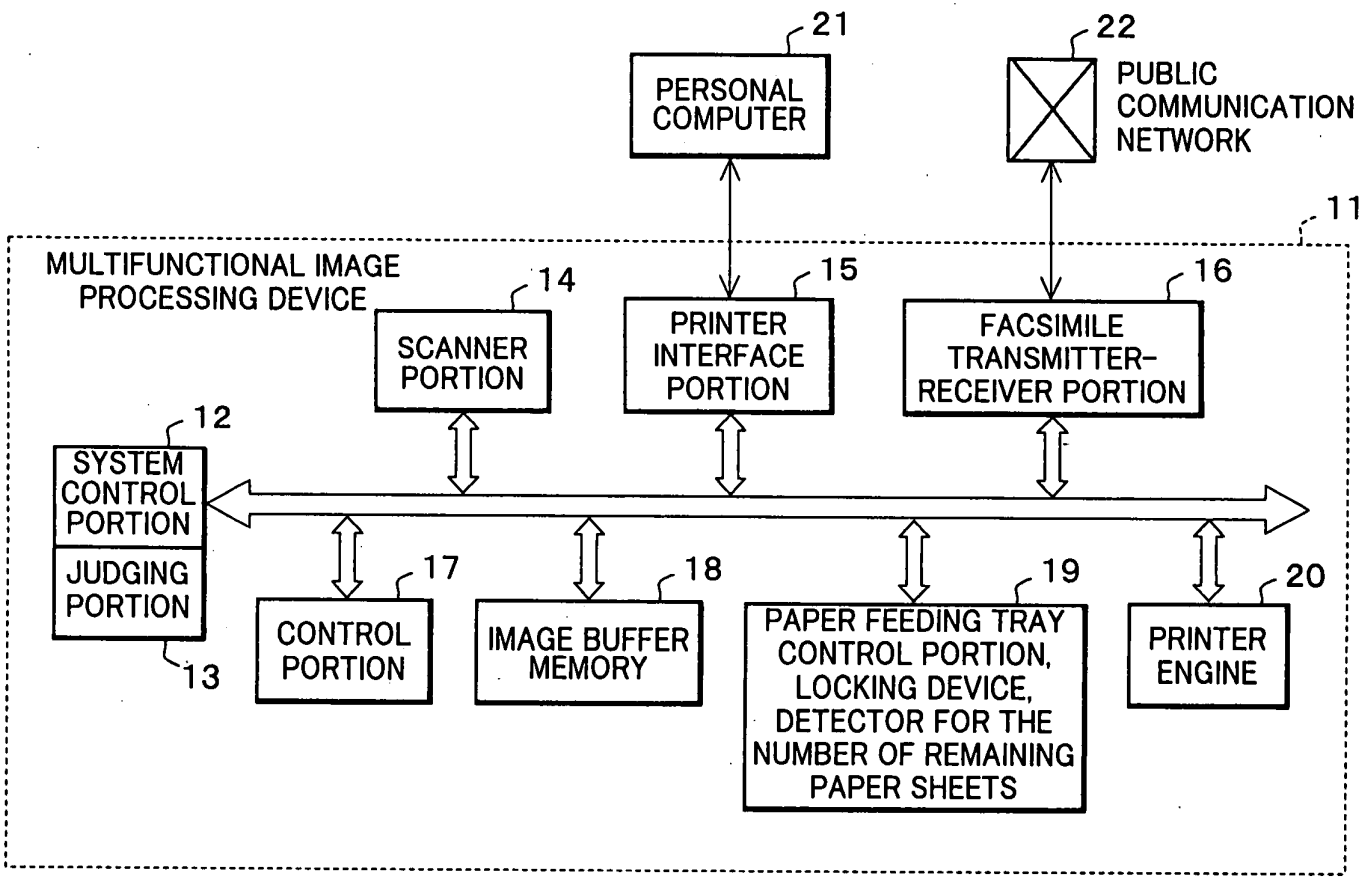

21
PERSONAL COMPUTER
22
PUBLIC COMMUNICATION NETWORK
11
MULTIFUNCTIONAL IMAGE PROCESSING DEVICE
14
SCANNER PORTION
15
PRINTER INTERFACE PORTION
16
FACSIMILE TRANSMITTER-RECEIVER PORTION
12
SYSTEM CONTROL PORTION
JUDGING PORTION
13
17
CONTROL PORTION
18
IMAGE BUFFER MEMORY
19
PAPER FEEDING TRAY CONTROL PORTION, LOCKING DEVICE, DETECTOR FOR THE NUMBER OF REMAINING PAPER SHEETS
20
PRINTER ENGINE

FIG 2

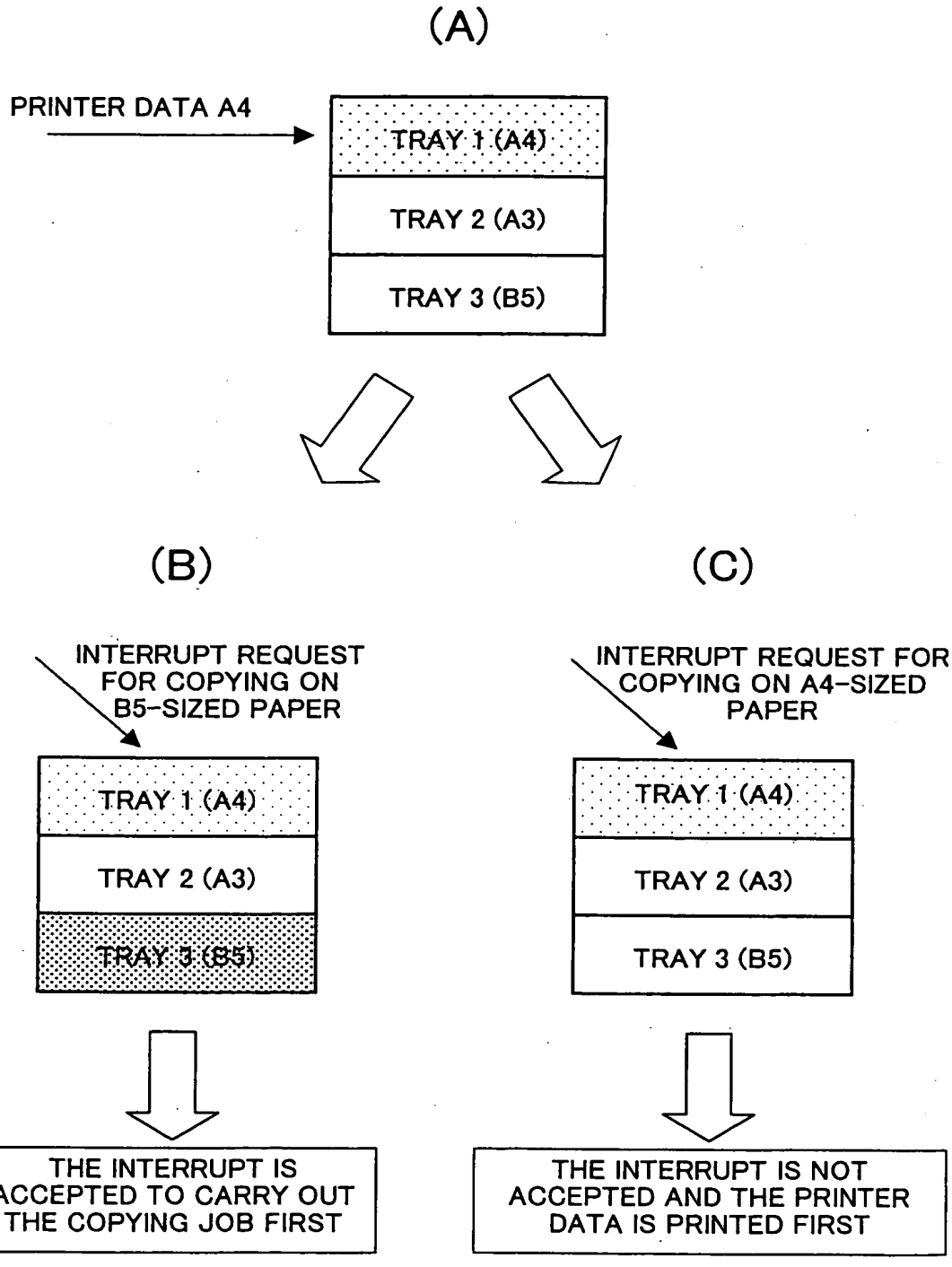
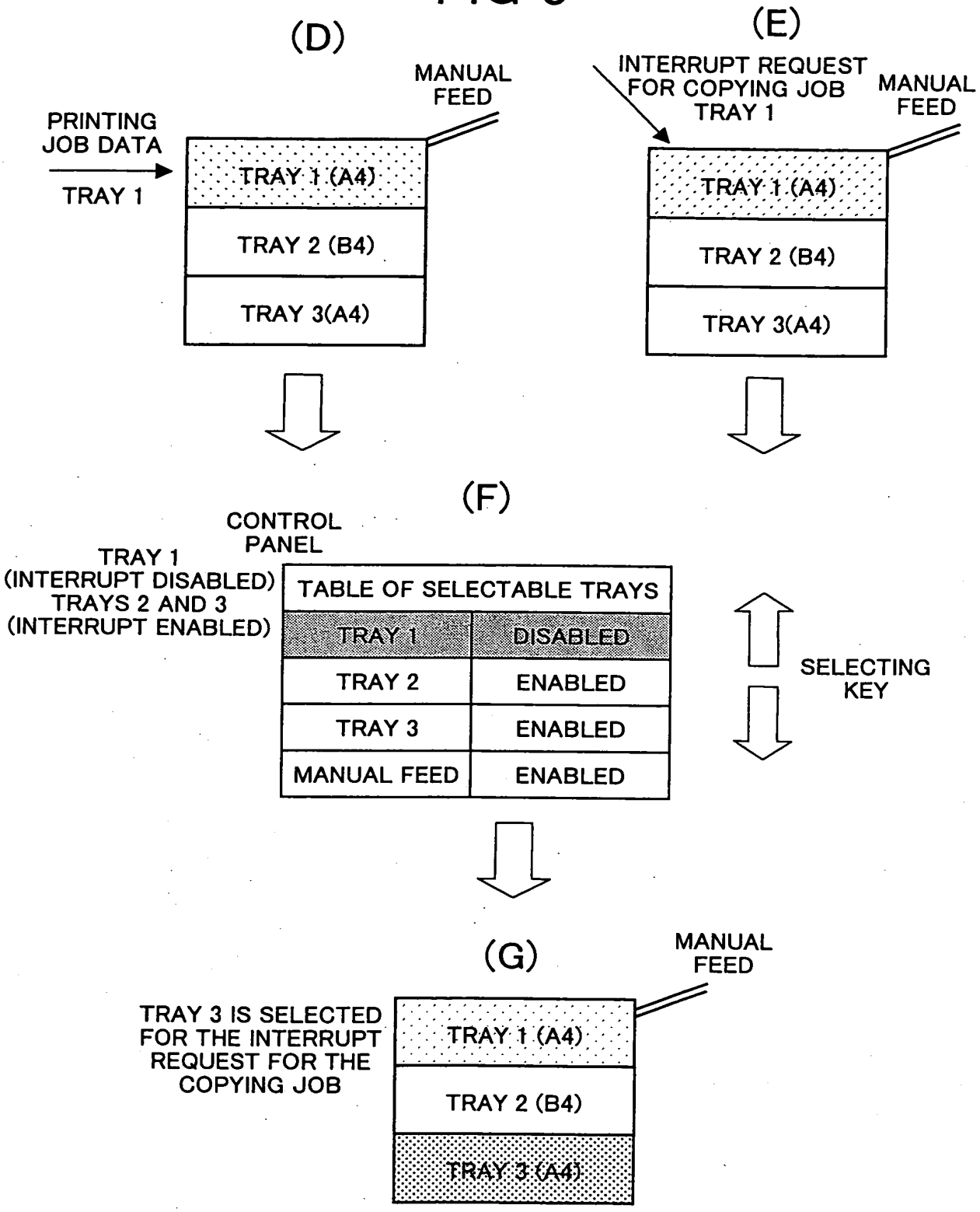
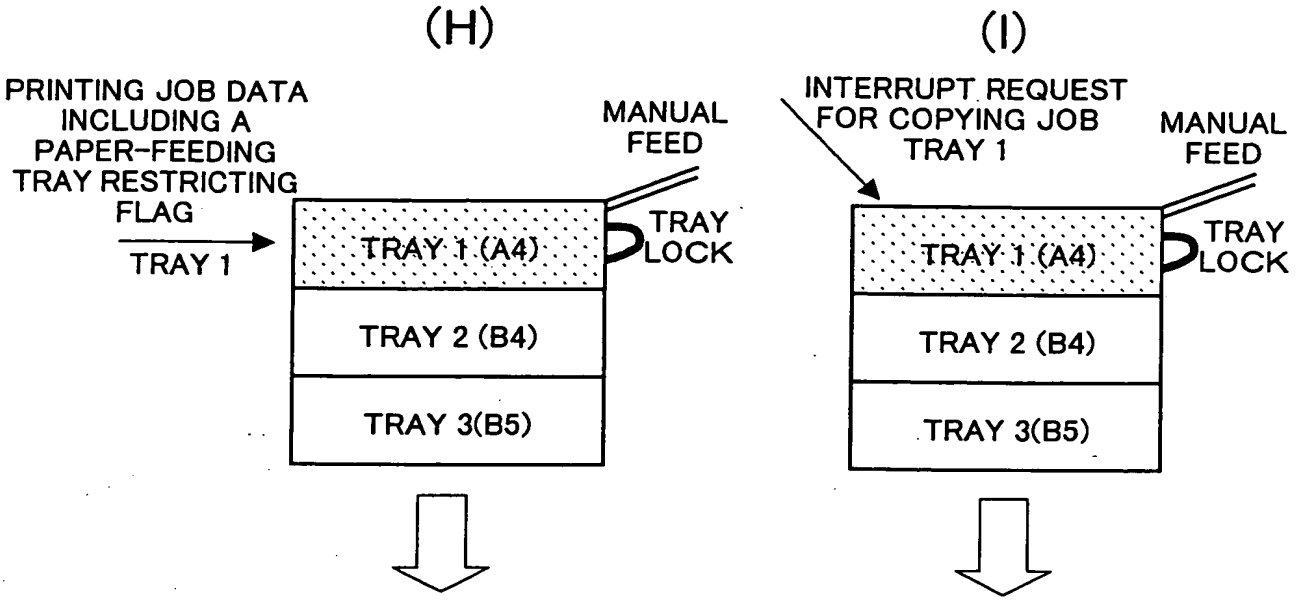

(A)
PRINTER DATA A4
TRAY 1 (A4)
TRAY 2 (A3)
TRAY 3 (B5)
(B)
INTERRUPT REQUEST FOR COPYING ON B5-SIZED PAPER
TRAY 1 (A4)
TRAY 2 (A3)
TRAY 3 (B5)
THE INTERRUPT IS ACCEPTED TO CARRY OUT THE COPYING JOB FIRST
(C)
INTERRUPT REQUEST FOR COPYING ON A4-SIZED PAPER
TRAY 1 (A4)
TRAY 2 (A3)
TRAY 3 (B5)
THE INTERRUPT IS NOT ACCEPTED AND THE PRINTER DATA IS PRINTED FIRST

FIG 3



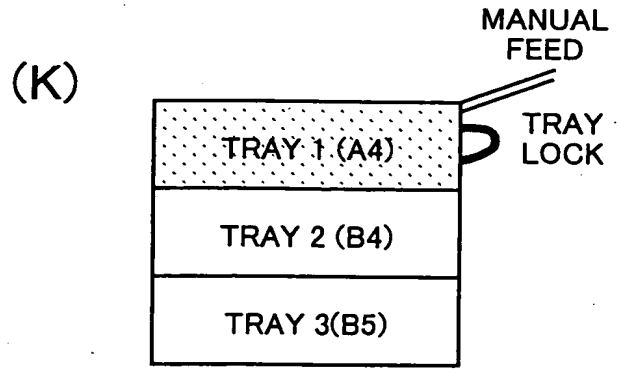
THE INTERRUPTING COPYING JOB IS CARRIED OUT BY FEEDING PAPER FROM THE TRAY 3 AND THEN THE REMAINING PRINTER DATA IS PRINTED BY FEEDING PAPER FROM THE TRAY 1.

FIG 4



(J)

(THE NUMBER OF SHEETS REMAINING IN THE TRAY 1)	≧	(THE NUMBER OF SHEETS FOR PRINTING JOB)	+	(THE NUMBER OF SHEETS FOR INTERPRINTING COPYING JOB)



THE INTERRUPTING COPYING JOB IS EXECUTED FIRST BY FEEDING PAPER FROM THE TRAY 1 AND THEN THE REMAINING PRINTER DATA IS PRINTED BY FEEDING PAPER FROM THE TRAY 1.

FIG 5

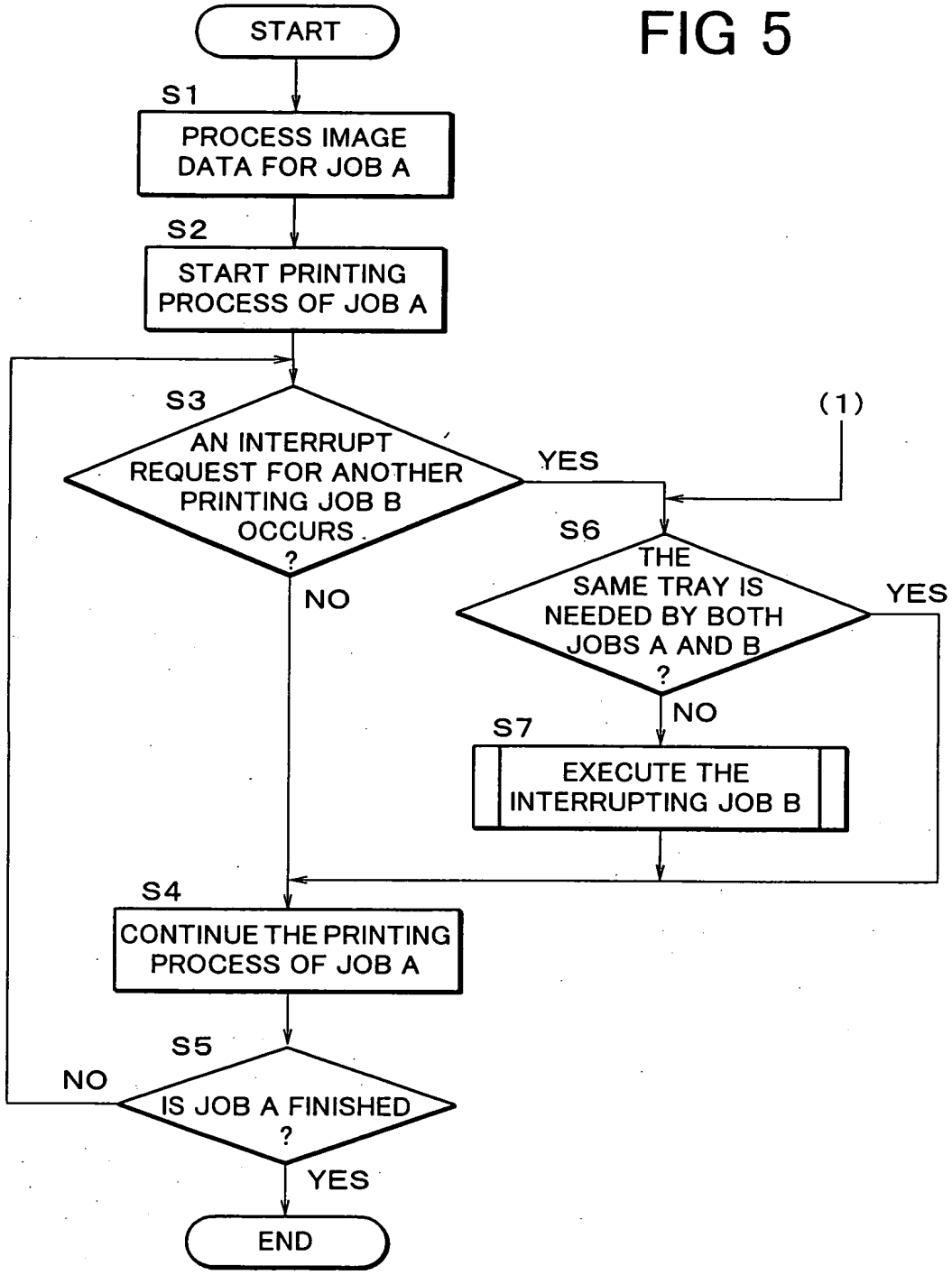

START
S1
PROCESS IMAGE DATA FOR JOB A
S2
START PRINTING PROCESS OF JOB A
S3
AN INTERRUPT REQUEST FOR ANOTHER PRINTING JOB B OCCURS ?
YES
NO
(1)
S6
THE SAME TRAY IS NEEDED BY BOTH JOBS A AND B ?
YES
NO
S7
EXECUTE THE INTERRUPTING JOB B
S4
CONTINUE THE PRINTING PROCESS OF JOB A
S5
IS JOB A FINISHED ?
NO
YES
END

FIG 6

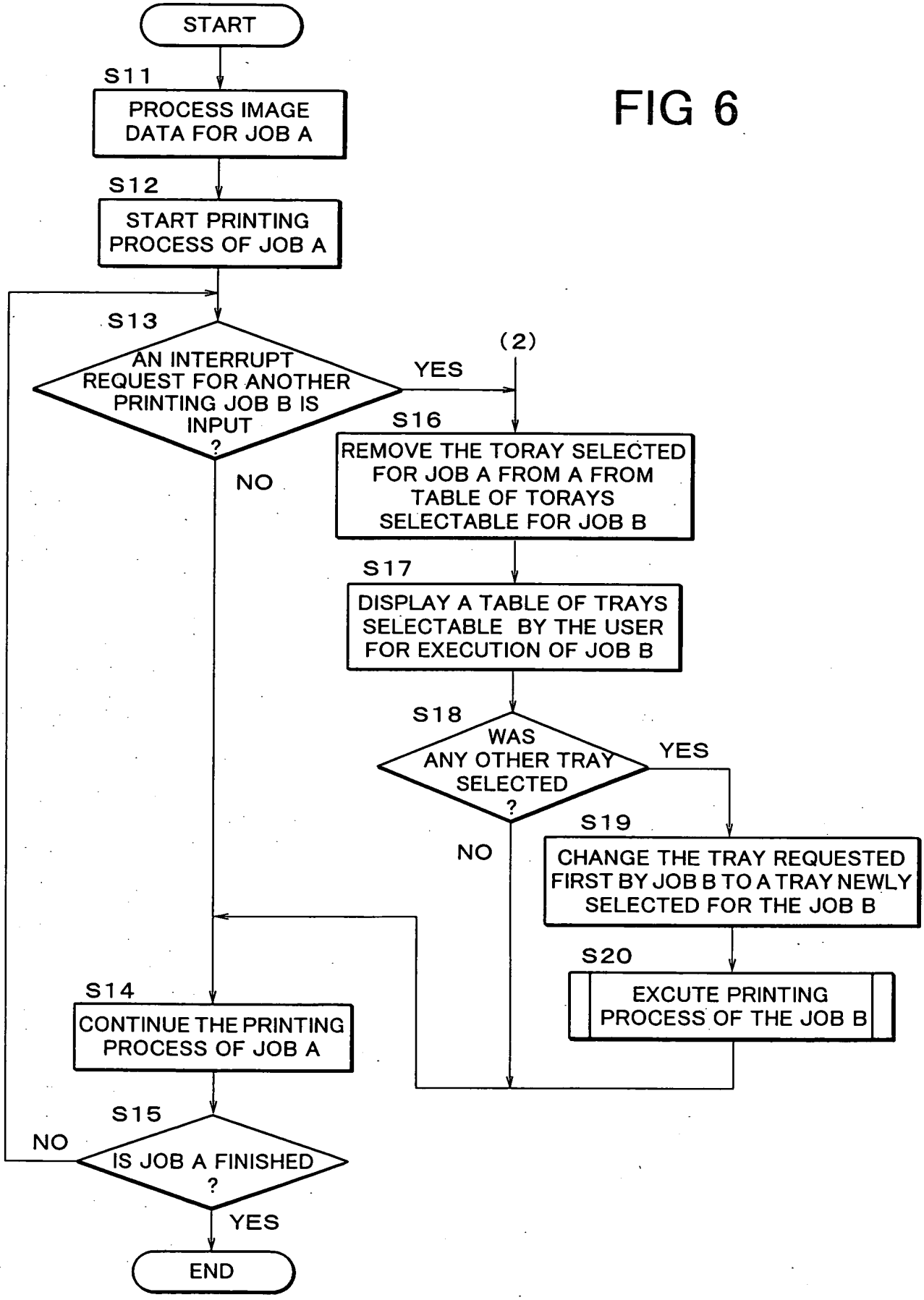

START
S11
PROCESS IMAGE DATA FOR JOB A
S12
START PRINTING PROCESS OF JOB A
S13
AN INTERRUPT REQUEST FOR ANOTHER PRINTING JOB B IS INPUT ?
YES
NO
(2)
S16
REMOVE THE TORAY SELECTED FOR JOB A FROM A FROM TABLE OF TORAYS SELECTABLE FOR JOB B
S17
DISPLAY A TABLE OF TRAYS SELECTABLE BY THE USER FOR EXECUTION OF JOB B
S18
WAS ANY OTHER TRAY SELECTED ?
YES
NO
S19
CHANGE THE TRAY REQUESTED FIRST BY JOB B TO A TRAY NEWLY SELECTED FOR THE JOB B
S20
EXCUTE PRINTING PROCESS OF THE JOB B
S14
CONTINUE THE PRINTING PROCESS OF JOB A
S15
NO
IS JOB A FINISHED ?
YES
END

FIG 7

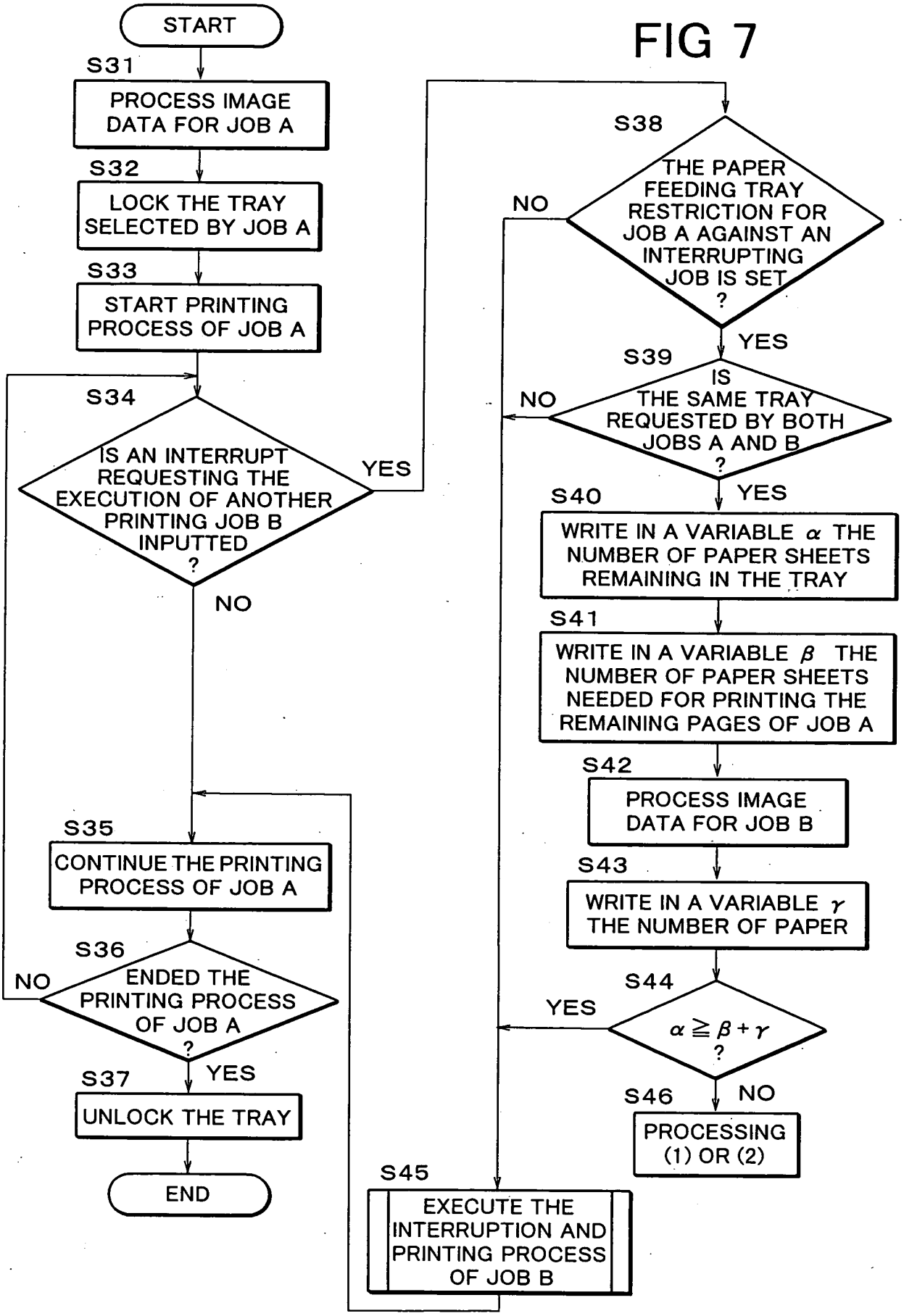

START
S31
PROCESS IMAGE DATA FOR JOB A
S32
LOCK THE TRAY SELECTED BY JOB A
S33
START PRINTING PROCESS OF JOB A
S34
IS AN INTERRUPT REQUESTING THE EXECUTION OF ANOTHER PRINTING JOB B INPUTTED ?
YES
NO
S35
CONTINUE THE PRINTING PROCESS OF JOB A
S36
ENDED THE PRINTING PROCESS OF JOB A ?
NO
YES
S37
UNLOCK THE TRAY
END
S38
THE PAPER FEEDING TRAY RESTRICTION FOR JOB A AGAINST AN INTERRUPTING JOB IS SET ?
NO
YES
S39
IS THE SAME TRAY REQUESTED BY BOTH JOBS A AND B ?
NO
YES
S40
WRITE IN A VARIABLE α THE NUMBER OF PAPER SHEETS REMAINING IN THE TRAY
S41
WRITE IN A VARIABLE β THE NUMBER OF PAPER SHEETS NEEDED FOR PRINTING THE REMAINING PAGES OF JOB A
S42
PROCESS IMAGE DATA FOR JOB B
S43
WRITE IN A VARIABLE γ THE NUMBER OF PAPER
S44
α ≧ β + γ ?
YES
NO
S46
PROCESSING (1) OR (2)
S45
EXECUTE THE INTERRUPTION AND PRINTING PROCESS OF JOB B

FIG 8

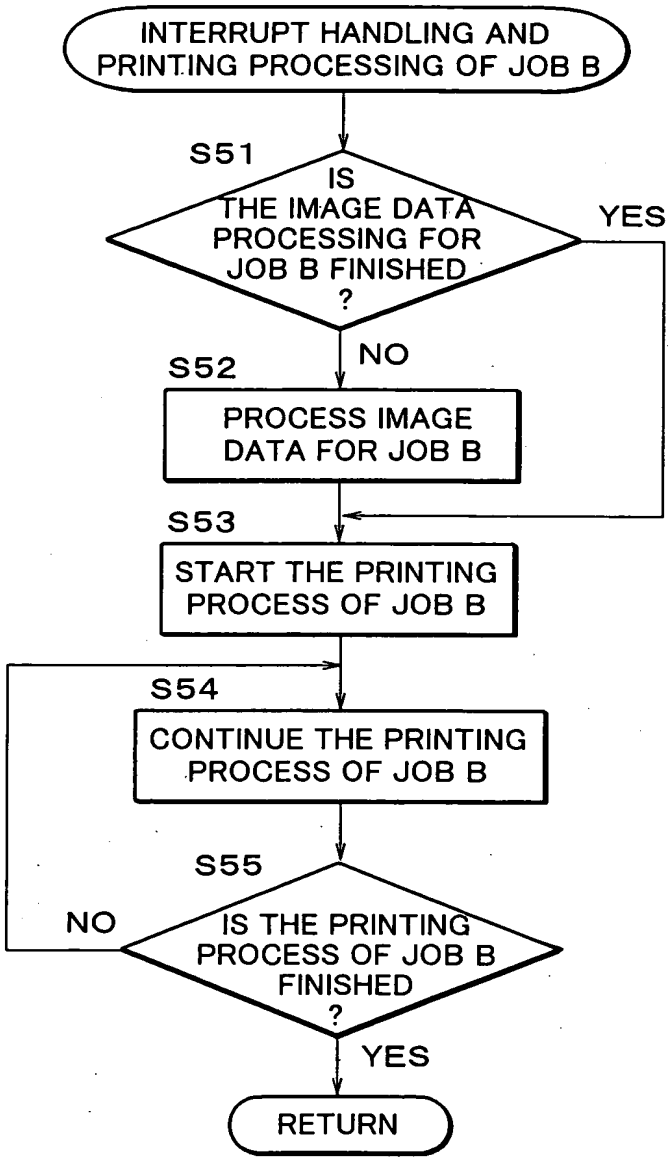

INTERRUPT HANDLING AND PRINTING PROCESSING OF JOB B
S51
IS THE IMAGE DATA PROCESSING FOR JOB B FINISHED ?
YES
NO
S52
PROCESS IMAGE DATA FOR JOB B
S53
START THE PRINTING PROCESS OF JOB B
S54
CONTINUE THE PRINTING PROCESS OF JOB B
S55
NO
IS THE PRINTING PROCESS OF JOB B FINISHED ?
YES
RETURN

FIG 9

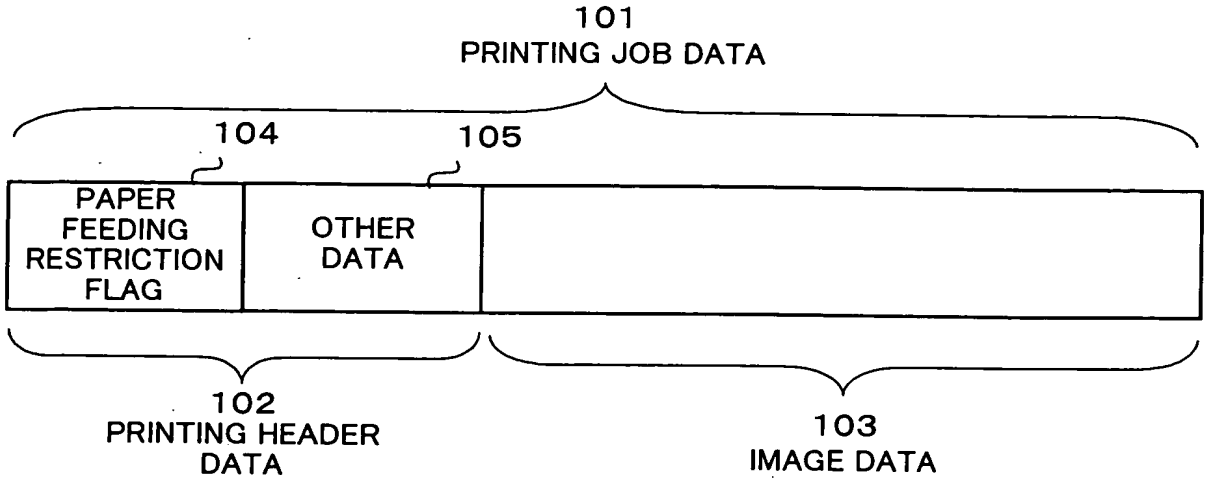
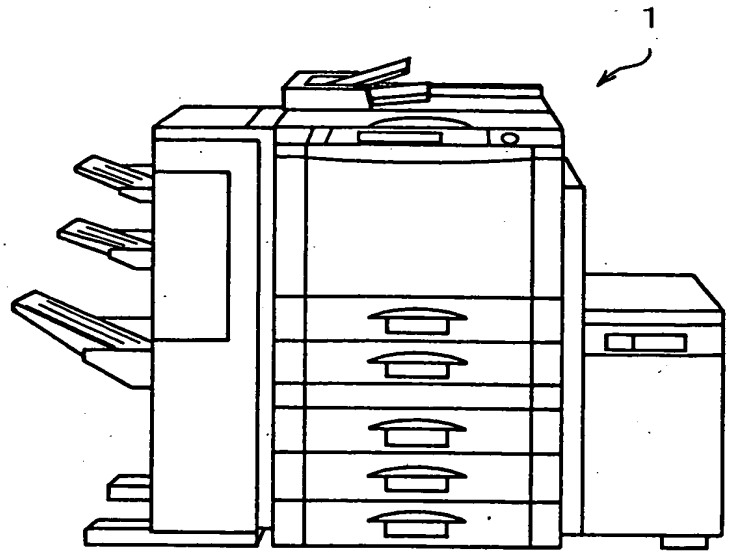

101
PRINTING JOB DATA
104
105
PAPER FEEDING RESTRICTION FLAG
OTHER DATA
102
PRINTING HEADER DATA
103
IMAGE DATA

FIG 10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